

Abstract

Disclosed is a mesenchymal stem cell and/or cell of the adipocyte lineage that (i) has been modified to have at least one exogenous antigen bound to at least one primary surface molecule of said cell such that said at least one antigen can initiate an immune response and (ii) also expresses at least one co-stimulatory molecule. The antigen is preferably a protein, polypeptide, lipid or glycolipid. The primary surface molecule is MHC I, MHC II or CD1. Also disclosed is a method for stimulating presentation of at least one exogenous antigen fragment on a mesenchymal stem cell primary surface molecule by contacting a mesenchymal stem cell that is capable of expressing at least one co-stimulatory molecule with (i) an exogenous antigen or (ii) genetic material that codes for the exogenous antigen which the mesenchymal stem cell processes into at least one antigen fragment. The method can further include contacting the mesenchymal stem cell with interferon- γ . Also disclosed are a method for determining the state of activation of a T lymphocyte population and a method for the treatment or prevention of a disease in an animal.